

FAC66 Product Category Specifications

Amended 01/25/2010. All amendments are shown in red.

1. CONTRACT CATEGORIES

It is the intent that the regional bidders must be able to supply complete product line in multiple categories **in order for bids to be considered responsive**. It is **desirable** that potential bidder(s) have product lines for the golf course and soil aggregate categories that will add an “added value” to their bids as well as points.

It should be recognized that it is considered a benefit to the Commonwealth to be able to purchase from one supplier versus having to buy from several. For this reason, value is placed with bidders who can supply a more complete category or multiple categories in more than one region. Businesses responding may want to consider partnering with other small businesses to supplement the products offered in their response.

Category 1: Seeds for Golf Courses & Athletic Fields

This Category includes grass seeds for golf courses and athletic fields **and related tools and accessories**. All grass varieties must be rated in the overall mean **80 percentile** or greater of the most recent NTEP trials in the testing sites closest to the climate of the Commonwealth of MA.

Bidders and contractors **must** not sell any species commonly known as invasive. Invasive plant species in New England can be found at http://www.mass.gov/agr/farmproducts/proposed_prohibited_plant_list_v12-12-05.htm. It is **highly desirable** that Bidders offer native species, or plants indigenous to this area. To receive evaluation points, Bidders must include one Microsoft Word document including a list of native species normally stocked by the Bidder.

Category 2: Nursery Products, Grass Seed and Sod

This category includes live (plant) stock (shrubs, trees, bushes, ground covers, perennials & annuals, etc.), grass seed, and related **tools and accessories**. All grass varieties must be rated in the overall mean **80 percentile** or greater of the most recent NTEP trials in the testing sites closest to the climate of the Commonwealth of MA.

Bidders and contractors **must** not sell any species commonly known as invasive. Invasive plant species in New England can be found at http://www.mass.gov/agr/farmproducts/proposed_prohibited_plant_list_v12-12-05.htm. It is **highly desirable** that Bidders offer native species, or plants indigenous to this area. To receive evaluation points, Bidders must include one Microsoft Word document including a list of native species normally stocked by the Bidder.

Category 3: Mulch Products

Bidders are encouraged to offer various types of mulch products, including, but not limited to, bark and wood mulch products, derived from natural wood products as a byproduct of forest harvesting operations, erosion control mulch and horticultural mulch.

Category 4: Compost Products

The Commonwealth is seeking Bidders who offer compost and compost-manufactured loam (CML) for agricultural, landscaping, erosion control, and other appropriate applications. Bidders may submit responses for any of the compost categories as described below as long as proposed compost meets all applicable specifications contained in Section 2 of this document.

Compost is a stable, humus-like material made from the aerobic decomposition of organic residues. These residues may include biosolids, yard wastes, agricultural wastes, commercial or industrial organic sludge materials and/or source-separated municipal solid waste. All compost and CML should be capable of supporting plant growth with appropriate best management practices and the addition of fertilizers and other amendments as applicable.

All compost **must** be:

- Dark brown to black;
- Loose and friable.

Compost **may not**:

- **Include any chromated copper arsenate (CCA) pressure treated wood products due to the human health risks that may be associated with these products.**
- Produce dust;
- Contain more than 1% dry weight of debris such as metal, glass, plastic, wood other than residual chips, asphalt, or masonry;
- Contain visible free water;

All sludge or biosolid containing products **must** meet Massachusetts 310 CMR 32.00 criteria for Type I sludge and bidders must submit a copy of the Massachusetts DEP (MassDEP) approval (permit code BRP WP29, applications found at <http://www.mass.gov/dep>).

If solid waste materials are incorporated into compost, a beneficial use determination from MassDEP may be required before the product can be sold. Bidders must submit a copy of MassDEP approval. Information on requirements can be found at <http://www.mass.gov/dep>.

Bidders may submit responses for any of the compost categories as described below as long as proposed compost meets all applicable specifications contained in this RFR.

Compost Subcategories:

1. Compost for General Use
2. Compost-Manufactured/Amended Loam
3. Compost for Horticultural Mulch
4. Compost as Erosion Control Mulch (compost blankets)
5. Compost as Erosion Control Filter Berm
6. Compost as Landfill Cap or Cover Material

Bidders may propose other compost or compost-related materials for inclusion on this contract, to be included in the Bidder's response as one Microsoft Word, Excel or PDF document. Such proposals must include a detailed description of these materials accompanied by information on specifications and any other relevant information. It is **desirable** that Bidders offer as wide a variety of compost products as possible.

Compost materials in Subcategories 1-5 **must** meet all appropriate specifications detailed in the Mandatory Compost Specifications chart in Section 2 of this document. Each compost and CML batch in the **must** be tested prior to sale to demonstrate that materials meet listed mandatory specifications. Testing costs must be borne by the Contractor. Upon request, results of such testing must be provided to the Eligible Entity either prior to or at the time of delivery. Materials **must** also be re-tested if any significant change, such as due to rainfall, occurred which might alter the product's composition or performance. All tests **must** provide information on the following characteristics:

- Organic matter percentage;

- Moisture content;
- Particle size;
- Soluble salts;
- Stability **must** be assessed by either a CO₂ evolution test or a reheating test. For the CO₂ test, the compost respiration **must** be no more than 5 mg CO₂-C/gBVS per day. For reheating, using the Dewar Self-Heating Test, the maximum heat rise **must** be no greater than the limit outlined for each application Section 2.
- pH;
- Carbon to nitrogen ratio;
- Available nitrogen;
- Phosphorous, potassium, calcium, and magnesium content;
- Toxic Contaminant Leaching Procedure results for lead, cadmium, and chromium.

The address and telephone number of the testing facility used **must** be supplied to Eligible Entities upon request. Contractors may (but are not required to) use the University of Massachusetts Soil Testing Laboratory located at UMass Amherst to meet the testing requirements of this RFR. The lab may be reached by calling 413-545-2311 or by completing the order form found at the UMass website at <http://www.umass.edu/plsoils/soiltest>.

Compost used for erosion control (Subcategories 4 & 5) is a temporary measure that provides protection to exposed soils during construction or over winter months. The Massachusetts Erosion and Sediment Control Guidelines (see <http://www.mass.gov/dep/water/esfull.pdf>) provide guidance for use of mulch and compost for erosion control. See special requirements found in Section 2 below.

When compost blankets or berms are proposed to be used in wetland resource areas (including 200-foot Riverfront Area) and associated 100-foot buffer zones, authorization is required pursuant to the Massachusetts Wetlands Act, MGL Chapter 131 s. 40, and regulations, 310 CMR 10.00. In such instances, Conservation Commissions (or MassDEP if appealed) may impose additional requirements on the use of compost blankets and berms to safeguard wetland resource areas (such as limiting the percentage of colloidal material or nutrients in the compost).

For landfill capping material (Subcategory 6), the MassDEP Regional Office in which the landfill where material will be used is located must approve the compost. To determine the appropriate MassDEP region, refer to <http://www.mass.gov/dep/about/region/findyour.htm>. Such approval must be obtained prior to any sale of compost material for use in this category and the bidder must submit a copy of the approval.

Category 5: Soil Aggregate Products

Products in this category may include items that can be added to the soil for enhancement purposes, whether for growth, aesthetics, drainage or safety, including but not limited to stone, gravel, sand, topdressing and loam. Products in this category may or may not contain recycled materials.

It is **desirable** that Bidders offer products for gold courses, including soil amendments, top-dressing materials, bunker sand etc. The following additional specifications apply to those products:

- All applicable items **must** meet or exceed U.S.G.A. standards (U.S.G.A. standards and guidelines can be found at <http://www.usga.org/Content.aspx?id=25872>, including

http://www.usga.org/course_care/articles/construction/greens/Green-Section-Recommendations-For-A-Method-Of-Putting-Green-Construction/).

- The U.S.G.A. Physical Evaluation Test **must** be available to Eligible Entities upon request.

Category 6: Fertilizers, Conventional and EPP

All conventional fertilizers including Liquid Fertilizers, Plant Stimulants, and Soil Amendments must meet all applicable federal and state regulations. **This category also includes tools and accessories related to fertilizer application.**

EPP fertilizers, including but not limited to liquid organic fertilizers, organic plant stimulants, and organic soil amendments, are recognized as effective means of addressing agricultural needs while minimizing some environmental effects associated with traditional chemical products. It is **desirable** that these materials be certified as organic by nationally recognized certifying bodies such as the Organic Materials Review Institute (OMRI) or National Organic Program (NOP). The product label should include specific reference to the dilution appropriate for the maximum working strength of the product and also the maximum recommended frequency of product application.

Upon request, Bidders for organic fertilizers must be able to submit the following information or equivalent test results:

- Batch test data for chemical consistency. Samples taken from the lesser of either 5,000 gallons or 50,000 pounds of finished product should be tested for product consistency through elemental analysis (Ca, S, Mg, Na, Fe, Mn, Cu, Zn, B, Mo, Al, Pb, N, P, K) reported both in absolute concentration and also as an N-P-K ratio by a certified laboratory operating under a protocol that includes provisions for retention samples.
- Efficacy of product to promote plant growth equal to that of any chemical fertilizer that will meet requirements for procurement under the Commonwealth's guidelines. Efficacy data should be established and confirmed on a cycle time of no less than five years. Field or laboratory demonstrations conducted by scientifically qualified, neutral parties will meet these criteria.
- For liquid products, test data for granularity or particle size to assure that the product meets a 100 mesh (180 micron) standard using a U.S. Standard Sieve Series.

Upon request, Bidders for organic fertilizers must be able to submit the following information or equivalent test results:

Category 7: Pesticides

This category includes pesticides used for outdoor management of insects, weeds, and fungal diseases in turf, shade trees, ornamental plants, and other outdoor sites. **This category also includes tools and accessories related to pesticide application.**

The Contractor **must** comply with the following requirements at all times:

- Restrict the sale of pesticides to only those that are actively registered for sale and use in the Commonwealth of Massachusetts by the Massachusetts Pesticide Board Subcommittee; and
- Restrict the sale of pesticides only to those individuals who are properly licensed or certified by the Massachusetts Department of Agricultural Resources.

Category 8: EPP Landscaping and Outdoor Application Products

Products in this category must be made with recycled materials, be less toxic or provide one or more of other environmental benefits compared to competing products and materials serving the same purpose. Such EPPs may include, but not be limited to:

- Timbers or other products made with recycled plastic,

- Erosion control bales made with recycled materials,
- Less toxic athletic marking paint, and other similar products.

If solid waste materials are incorporated into these landscaping supplies, a beneficial use determination from MassDEP may be required before the supplies can be sold. Information on requirements can be found at <http://www.mass.gov/dep>. Bidders must include a copy of MassDEP approval.

2. MANDATORY COMPOST SPECIFICATIONS

	Compost for General Use	Compost-Manufactured/Amended Loam CML		Compost for Horticultural Mulch	Compost as Erosion Control Mulch (compost blankets) ²		Compost as Erosion Control Filter Berm ²
		Compost used to produce CML	Final CML		(non-seeded)	(seeded)	
Minimum organic matter percentage (loss on ignition)	30%	30%	6 - 20%	40 - 60%	40 - 60%	40 - 60%	40 - 60%
Moisture content	<ul style="list-style-type: none"> 35% - 60%; product should be loose and friable, not dusty. 	<ul style="list-style-type: none"> <60%; product should be loose and friable, not dusty. 	<ul style="list-style-type: none"> Product should be loose and friable, not dusty. 	<ul style="list-style-type: none"> < 60%. Product should be loose and friable, not dusty. 	<ul style="list-style-type: none"> < 60%; Product shall be loose and friable, Not dusty. 	<ul style="list-style-type: none"> < 60%; product shall be loose and friable, not dusty. 	<ul style="list-style-type: none"> < 60%; product shall be loose and friable, not dusty.
Particle size	<ul style="list-style-type: none"> <.5 inch. Product should meet MA particle size standards for topsoil and be free of refuse. 	<ul style="list-style-type: none"> <1.0 inch 	<ul style="list-style-type: none"> No more than 20% of the material passing through the number 4 sieve shall consist of clay size particles. Not more than 65% of the product shall pass through a No. 200 sieve, as determined by the wash test in accordance with ASTM D 1140. 	<ul style="list-style-type: none"> < 2.0 inches 	<ul style="list-style-type: none"> 100% < 3 inches; 70% < 2 inches (<= 5% clay) 	<ul style="list-style-type: none"> 100% < .75 inch; 70% < .5 inch; maximum 50% between .25 - 2 mm; max. 15% < .25 mm. (<= 5% clay) 	<ul style="list-style-type: none"> 100% < 3.0 inch; Max 70% < 1.0 inch. (<= 5% clay)
Soluble salts (mmhos/cm (dS/m))	<4.0	<4.0	<4.0	< 4.0	< 4.0 (<1)	<4.0 (<1)	less than or equal to 4.0 (<1)
Stability ¹	Stable	Stable	Stable	Stable	Stable (Very Stable)	Very stable	Stable (Very Stable)
pH	6.0 -8.0	5.5 - 8.0	5.5 - 8.0	<ul style="list-style-type: none"> 5.5 - 8.0 When used for acid loving plants, 5.5 - 7.0. 	5.5 - 8.0	5.5 - 8.0	5.5 - 8.0
Metal Content	Metal Extract Procedure – 5 ppm Lead, 5 ppm Chromium, 1 ppm Cadmium	Metal Extract Procedure – 5 ppm Lead, 5 ppm Chromium, 1 ppm Cadmium	Metal Extract Procedure – 5 ppm Lead, 5 ppm Chromium, 1 ppm Cadmium	Metal Extract Procedure – 5 ppm Lead, 5 ppm Chromium, 1 ppm Cadmium	Metal Extract Procedure – 5 ppm Lead, 5 ppm Chromium, 1 ppm Cadmium	Metal Extract Procedure – 5 ppm Lead, 5 ppm Chromium, 1 ppm Cadmium	Metal Extract Procedure – 5 ppm Lead, 5 ppm Chromium, 1 ppm Cadmium

¹ *stable* - maximum rise between 10 and 20 degrees C - *very stable* - maximum rise up to 10 degrees C.

² This compost (categories 4 and 5) shall not contain biosolids and the amount of colloidal material must be limited. More stringent requirements for use of compost for erosion control in sensitive environmental areas such as bordering wetlands, salt marsh, and Outstanding Resource Waters (including public drinking water reservoirs and certified vernal pools) are suggested in these specifications (found in parentheses). More stringent or additional requirements may be imposed through specific authorizations and approvals issued by Conservation Commissions or MassDEP if an appeal.